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| Office Action Summary | Application No. 10/533,665 | Applicant(s) LEE ET AL. | |
| | Examiner DANIEL A. BERNSTEIN | Art Unit 3743 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 January 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 6, 8, 11, 12, 16 and 20-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 8, 11 and 21 is/are allowed.
- 6) ☐ Claim(s) 1, 6, 12, 16, 20 and 22-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>02/18/2010</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

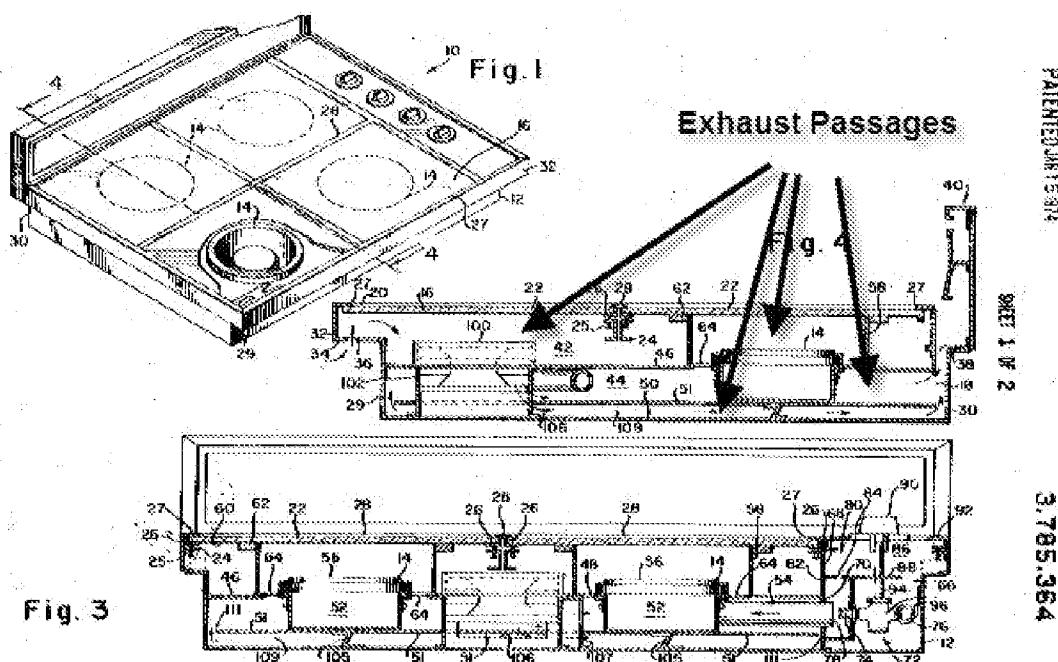
Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 1 rejected under 35 U.S.C. 102(b) as being anticipated by US 3,785,364 top Reid, Jr. et al.



In regards to claim 1, Reid shows an exhaust system (see side view of exhaust system in Fig. 4) in a radiation gas range (radiation gas range 10, Fig. 1), the exhaust

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system comprising: a housing (housing 12) having exhaust openings (exhaust flue 40, which is located in the rear of the stove) in a rear part that discharge exhaust gas; a cover on top (four ceramic glass plate members 22) of the housing that transmits radiant heat to an object placed thereon (gas combusted in burners 14 heats the plate members 22); front and rear burner housings (Fig.1 shows four burners 14, two front and two rear burners which are in heat contact with the bottom of plate members 22) in contact with a bottom surface of the cover that form spaces to burn mixed gas therein (plenum chamber 52); front radiation gas burners in the front burner housings (see two front burners 14, Fig.1), respectively, each burning mixed gas at a surface of a radiation body to generate a radiation energy (gas and air mix in 52 and the mixture burns at 56, radiating heat towards the bottom of plates 22, Fig. 3); rear radiation gas (rear gas burners 14, Fig. 1) burners in the rear burner housings, respectively, each burning mixed gas at a surface of a radiation body to generate a radiation energy; and an exhaust duct (see annotated Fig. 4 above where Reid shows a plurality of gas passages, top and bottom passages exhaust gas from the front and rear burners separately) in communication with the front and/or rear burner housings that discharges exhaust gas from the front and rear radiation burners toward the exhaust openings (Reid shows two exhaust ducts, first exhaust duct at 44 and second exhaust duct at 109), wherein the exhaust duct includes: a first exhaust duct (44) in communication with the front burner housings (exhaust is vented from the front burners to the upper exhaust duct 44 and lower exhaust duct 109); and a second exhaust (109) duct formed inside of (exhaust duct 109 is formed inside of exhaust duct 44 and is divided by a wall at 51, see

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Fig. 4), and separate from, the first exhaust duct in communication with the rear burner housings (exhaust from the rear radiation burners travels through vents at 64 and into the second exhaust duct at 44), **wherein two sets of each of the front and rear burner housings, and the front and rear radiation gas burners are provided, wherein the exhaust duct is arranged at a central part of the housing** (the first exhaust duct is arranged at a central part of the housing at 44) **to pass between the front radiation gas burners and between the rear radiation gas burners** (the second exhaust duct extends from the front to the rear radiation burners 14), **wherein a partition wall** (partition wall 51) **is provided at a central part of each of the first (44) and second exhaust ducts (109), that divides each of the first and second ducts exhaust into two parts** (wall 51 divides the first and second exhaust ducts into two parts), **and wherein the front and rear burner housings comprise front inlets and rear inlets** (all the burners 14 have inlets 64 in which exhaust travels to the lower parts of the assembly where the exhaust travels through the first and second exhaust ducts and out of the flue at 40) **at one side part** (see how vents or inlets 64 are located on the side of the burners, Fig. 3) **of the front and rear burner housings, respectively, and the exhaust duct is arranged at lower parts** (both the first and second exhaust ducts are located below inlets 64) **of the front inlets and the rear inlets.**

In regards to claim 6, Reid shows the exhaust system as claimed in claim 1, wherein the second exhaust duct (109) has a sectional area smaller than $1/2$ of a sectional area of the first exhaust duct (as shown in Fig. 4, the second exhaust duct at 109 is at least smaller than $1/2$ the size of the first exhaust duct 44).

In regards to claim 20, Reid shows a radiation gas range comprising the exhaust system of claim 1 (see Reid Fig. 1-4).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claim 12 rejected under 35 U.S.C. 103(a) as being unpatentable over Morse in view of Reid.

In regards to claim 12, Morse teaches an exhaust system (see Fig. 1) in a radiation gas range (gas range 2), the exhaust system comprising: housing (14) having exhaust openings (exhaust openings 26) in a rear part (26 are in a rear part of the stove) that discharge exhaust gas; a cover (glass plate 30) on top of the housing that transmits radiant heat (Col. 1 lines 43-49) to an object placed thereon; two front and rear burner housings (front burners 4 and 8 and rear burners 6 and 10 have housings, see Fig. 1 and Fig. 3) in contact with a bottom surface (30 is in contact with the burner

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housing see Fig. 3) of the sheet of glass cover that form spaces to burn mixed gas therein (gas is burned in cylindrical hot gas chamber 43 ignited by ignitor 49, that in turn heats up the side walls of the burner and transmits radiant heat to the glass plate 30); two front radiation gas burners (4 and 8) and two rear radiation gas burners (6 and 10) in the front and rear burner housings, respectively, each burning mixed gas at a surface (gas is burned in cylindrical hot gas chamber 43 ignited by ignitor 49, that in turn heats up the side walls of the burner and transmits radiant heat to the glass plate 30) of a radiation body (infrared burner element 41) to generate a radiation energy (energy radiates from the infrared burner element 41 in such a manner well known in the art); a central exhaust duct (exhaust duct 52) in communication with the front burner housing (each burner has its own duct 52) that guides exhaust gas from the front radiation gas burners to the exhaust openings (52 guides exhaust gas to the openings at 26), wherein the central exhaust duct is formed by the front burner housing (52 is integral and formed as part of the front burner housing); and two rear exhaust ducts (the rear burners 6 and 10 each have exhaust ducts 52) in communication with the rear burner housings, respectively that discharge exhaust gas from the front radiation gas burners and the rear radiation gas burners toward the exhaust openings (exhaust gases meet and mix at the exit of 52 before being discharged out of openings 26. Since the exhaust system as shown in Fig. 1 is open, all the ducts are in communication). Morse does not teach **wherein the front and rear burner housings comprise front inlets and rear inlets at one side part of the two front and rear burner housings, respectively, and the**

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central exhaust duct is arranged at lower parts of the front inlets and the rear inlets.

Reid teaches a smooth top range **wherein the front and rear burner housings comprise front inlets and rear inlets** (Reid teaches front and rear burners 14 in Fig.1 and teaches that each burner has an inlet 64 in which exhaust gases travel through to exhaust ducts 44 and 109, which are located below the burner assemblies) **at one side part of the two front and rear burner housings** (64 is located on the side of each burner), **respectively, and the central exhaust duct is arranged at lower parts of the front inlets and the rear inlets** (the central exhaust system of Reid is located at the lower parts of the stove assembly below the front and rear inlets 64).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to combine Morse with Reid for the purpose of making the stove of Morse more compact by disposing the exhaust ducts below the burners. It is well known to someone of ordinary skill in the art that reducing the size of the stove assembly would save space under the stove for more storage. A known problem with radiation burners of this type is that the exhaust ducts can ruin the aesthetics of the stove and also make the stoves bulky. Reid teaches that arranging the ducts around the burner assemblies can save space and increase the aesthetics of the stove. Therefore, it would have been obvious to combine Morse with Reid in order to reduce the size of the stove assembly by disposing the ducts below the burners and to decrease the size of the stove assembly.

In regards to claim 16, Morse teaches the exhaust system as claimed in claim 12, wherein the exhaust duct comprises two separate exhaust ducts (each burner in Fig. 1 and 2 of Morse has a separate exhaust duct 52) including a left exhaust duct (there are left side exhaust ducts 52 and right side exhaust ducts 52 in communication with the front and rear burners, see Fig. 1 and 2) in communication with the front burner and the rear burner on a left side and a right exhaust duct in communication with the front burner and the rear burner on a right side (“in communication” is a broad term and every duct of Morse is in communication since Morse teaches an open exhaust system without valving means). In this action claim 16 was considered to be dependent upon claim 12 per a telephonic interview, see attached interview summary.

In regards to claim 22, Morse in view of Reid discloses a radiation gas range comprising the exhaust system of claim 12 (see exhaust system of Morse, Fig. 1-3, and Reid, Fig. 1-4).

In regards to claim 23, Morse teaches the exhaust system of claim 12, wherein the cover comprises a sheet of glass (glass plate 30, Fig. 3, Morse).

In regards to claim 24, Morse teaches the exhaust system of claim 12, wherein the two front radiation burners (4 and 8) and two rear radiation burners (6 and 10) are provided in lower parts of the front and rear burner housings (front and rear burners of Morse are positioned under glass plate 30 in the lower part of the burner housings), respectively.

In regards to claim 25, Morse teaches the exhaust system of claim 12, wherein a partition wall (partition wall, annotated Fig. 3 of Morse) at a central part of the central

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exhaust duct divides the central exhaust duct into two parts (the duct has an outer partition wall as seen in annotated Fig. 3 and it divides the first exhaust duct into an upper and lower region), one of which communicates with the front burner housing on a left side, and the other one of which communicates with the front burner housing on a right side (every exhaust duct in the system as taught by Morse is capable of communicating since the system is open and not restrained or controlled by valving).

Allowable Subject Matter

6. Claims 8, 11 and 21 allowed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL A. BERNSTEIN whose telephone number is (571)270-5803. The examiner can normally be reached on Monday-Friday 8:00 AM - 5:00 PM EDT.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Rinehart can be reached on 571-272-4881. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DAB

/Kenneth B Rinehart/

Supervisory Patent Examiner, Art Unit 3743